We Claim:

1. A novel protein capable of inhibiting anthrax toxin activity said protein comprising of following characteristics:
   - (i) Hydrophobic in nature,
   - (ii) Molecular weight 67 kDa,
   - (iii) Stable at room temperature,
   - (iv) Resistant to trypsin,
   - (v) Having no proteolytic activity,
   - (vi) Inhibits proteolytic cleavage of protective antigen (PA) of *B. anthracis* in a dose dependent manner,
   - (vii) Binds to IgE, and
   - (viii) The protein is devoid of any carbohydrate moiety.

2. A protein as claimed claim 1 wherein the said protein is isolated from the pollen grains of grass species selected from group of *Imperata cylindrica* (Ic), *Lolium perenne*, *Phleum pratense*, *Cynodon dactylon* and related genus.

3. A protein as claimed in claim 1 wherein the said protein is stable in the temperature range of about 3°C to 40°C

4. A protein as claimed in claim 3 wherein the said the protein is stable in the temperature range of about 4°C to 37°C.

5. A protein as claimed in claim 1, wherein protein in the range of about 25-20 ng completely inhibits the protective antigen (PA) of the anthrax toxin.

6. A protein as claimed in claim 1, wherein the protein in the range of about 15-5 ng partially blocks the cleavage activity of the PA.

7. A protein as claimed 1, wherein the protein in the range of about 25 ng to 11,000 ng is efficient in inhibiting the anthrax toxin activity.

8. A protein as claimed 11, wherein the protein in the range of about 50 ng to 10,000 ng is efficient in inhibiting the anthrax toxin activity.

9. A process of isolating the novel protein capable of inhibiting anthrax toxin activity, said process comprising steps of:

(i) extracting the total protein from the grass pollen by suspending the pollen in phosphate buffer for a period of about 3h to 15 h under stirring continuously under cold conditions followed by high speed centrifugation at 15,000 rpm,

(ii) purifying protein fractions from the extract of step (i) by column chromatography,

(iii) lyophilizing the dialyzed protein fraction containing the protein of interest obtained in step (ii).

(iv) subjecting the protein fractions of step (iv) to SDS-PAGE followed by Western blotting and immuno-staining to separate and locate the protein of interest,

(v) testing the ability of the purified protein to inhibit anthrax toxin activity by incubating the isolated protective antigen (PA) of *B. anthracis* with or without lyophilized isolated protein from a grass in presence of trypsin for measuring the PA cleaving (inhibitory) activity of the isolated protein by SDS-PAGE in a dose dependent manner.

(vi) characterizing the purified protein allergenic activity by SDS-PAGE, Western blotting and immuno-staining.

10. A process as claimed in claims 13, wherein the pollen grains for purification of the protein in the step (i) are collected from grasses selected from group comprising of *Imperata cylindrica* (Ic), *Lolium perenne*, *Phleum pratense*, *Cynodon dactylon* and related genus.

11. A process as claimed in claim 13 wherein the buffer used for extraction of pollen in the step (i) is selected from group comprising of 0.1M PBS or 0.1 M ammonium bicarbonate of pH ranging from 7.0 to 8.0.

12. A process as claimed in claim 13 wherein the material used for the column chromatography in step (ii) is a hydrophobic resin selected from octadecyl silica gel and similar silica gels.

13. A process as claimed in claim 13, wherein the protein bound to the chromatography column in step (iii) is eluted with acetonitrile in range of about 30-75% and about 0.50 z% Trifluoroacetic acid (TFA) in water.

14. A process as claimed in claim 17, wherein the acetonitrile is in the range of about 40-60% and TFA is about 0.1% in water.

15. A process as claimed in claim 13 wherein the protein obtained in step (vi) is stable in the temperature range of about 3°C to 40°C

16. A process as claimed protein as claimed in claim 19 wherein the said the protein is stable in the temperature range of about 4°C to 37°C.

17. A process as claimed in claim 13, wherein protein in the range of about 25-20 ng completely inhibits the protective antigen (PA) of the anthrax toxin.

18. A process as claimed in claim 13, wherein protein in the range of about 15-5 ng partially blocks the cleavage activity of the PA.

19. A process as claimed in claim 13, wherein the protein in the range of about 25 ng to 11,000 ng is efficient in inhibiting the anthrax toxin activity.

20. A process as claimed in claim 25, wherein the protein in the range of about 50 ng to 10,000 ng is efficient in inhibiting the anthrax toxin activity.